Quiz Tomorrow:

- Wave Combinations
- Concepts
- Problems: $f = \frac{1}{T}$, $v = \lambda f$

Sound:

- Pitch → perceived frequency of sound

  how high or low something sounds

- Intensity → how loud sound is

$$I = \frac{P}{4\pi r^2}$$

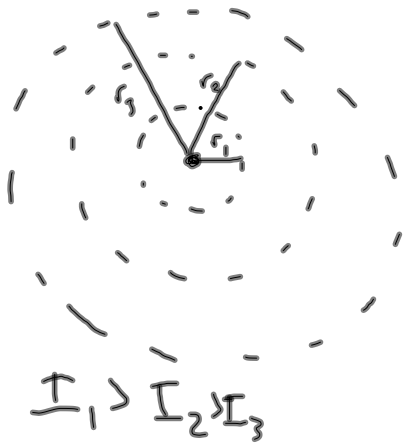
P → power

r → radius

I → intensity

if we draw soundwaves as a sine wave, intensity $\propto$ (amplitude)^2

$4\pi r^2$ comes from the area of a sphere



circles on boards, but technically spheres

$I_1 > I_2 > I_3$

- Speed of sound depends on the medium

- Intensity measured in W/m^2
  - Sound scale we use measures relative intensities, called bel scale. (decibel)

Log Scale!
↳ decibels
↳ set Ø point somewhere

$1E-12\ W/m^2 = Ø\ dB$

$1E-11\ W/m^2 = 10\ dB$

$1E-6\ W/m^2 = 60\ dB$

$1E Ø\ W/m^2 = 120\ dB$

- Two conditions for hearing a sound:
  1. Intensity
  2. Frequency